Bellwork: Period 4 - 10/2/12

Find the equation of the line that goes through the point (-6,-5) and is perpendicular to $2x-3y=9$

opp. reciprocal

$m = -\frac{3}{2}$

$pt\ (-6,-5)$

$\frac{-3y}{-3} = \frac{-2x}{-3} + \frac{9}{-3}$

$y = \frac{2}{3}x - 3$

$y + 5 = -\frac{3}{2}(x+6)$

$y + 5 = -\frac{3}{2}x - 9$

$-5 \qquad\qquad -5$

$y = -\frac{3}{2}x - 14$

⑥ $\perp$ to $y = \frac{1}{2}x + 3$ pt $(2, 4)$

$m: -\frac{2}{1} = -2$

pt $(2, 4)$

$y - 4 = -2(x - 2)$

$y - 4 = -2x + 4$

$+4 \quad +4$

$y = -2x + 8$

(12) $(-1,3)$ and $(3,-1)$

$$m = \frac{-1-3}{3+1} = \frac{-4}{4} = -1$$

$$y - 3 = -1(x+1)$$

$$y - 3 = -x - 1$$

$$+3 \qquad +3$$

$$\boxed{y = -x + 2}$$

(15) $\perp$ to $3x+4y=-1$ pt $(9,-2)$

$-3x$

$m: \frac{4}{3}$

pt $(9,-2)$

$\frac{4y}{4} = \frac{-3x}{4} - \frac{1}{4}$

$y = -\frac{3}{4}x - \frac{1}{4}$

$y+2 = \frac{4}{3}(x-9)$

$y+2 = \frac{4}{3}x - 12$

$-2 \qquad -2$

$y = \frac{4}{3}x - 14$

Equations of lines from a table:

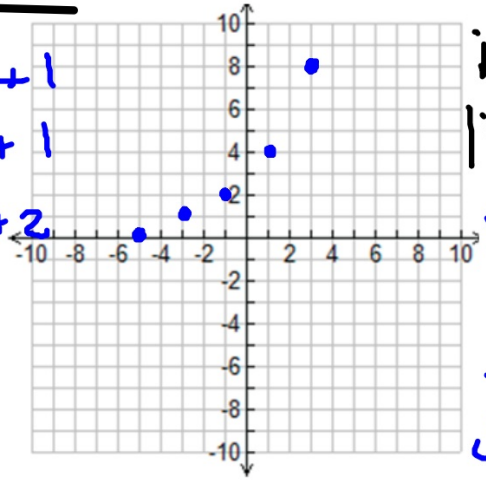
Determine if the table represents a linear function. If so, write the equation of the line it represents.

ⓐ

x	y
−5	0
−3	1
−1	2
1	4
3	8
5	16

+2 +2 +2 +2 +2

+1 +1 +2



NOT LINEAR

- How do you know if a table is linear?

see if y and x increase or decrease by the same amount.

$$\text{slope} = \frac{\text{change in } y}{\text{change in } x}$$

(b)

x	y	
-6	9	
-4	8	-1
-2	7	-1
0	6	-1
2	5	-1

(+2 each step)

p+(0,6)

$m = \frac{\text{change in } y}{\text{change in } x} = -\frac{1}{2}$

$y - 6 = -\frac{1}{2}(x - 0)$

$y - 6 = -\frac{1}{2}x + 0$

$+6 \quad +6$

$y = -\frac{1}{2}x + 6$

(c)

x	y	
-16	2	
-12	5	+3
-8	8	+3
-4	11	+3
0	14	+3

(+4 each step)

$m = \frac{3}{4}$ p+(-8,8)

$y - 8 = \frac{3}{4}(x + 8)$

$y - 8 = \frac{3}{4}x + 6$

$+8 \quad +8$

$y = \frac{3}{4}x + 14$